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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,695	02/10/2004	Tuomo Lehtonen	59244.00008	7389

32294 7590 01/10/2005

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EXAMINER

KWOK, HELEN C

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/774,695	Applicant(s) LEHTONEN, TUOMO	
	Examiner Helen C. Kwok	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/6/04; 9/3/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figures 1 and 2 should be labeled as – Prior Art --. Furthermore, it is suggested that Figures 6-22 should be labeled with reference numerals to indicate the elements illustrated in these figures.

### ***Claim Objections***

3. Claims 1-17 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 11, the phrase “the capacitance” should be changed to – a capacitance --.

In claim 5, line 1, the word – of – should be inserted after the word “sensor”.

In claim 7, line 3, what is the word “its” referring to?

In claim 9, line 2, the word – the – should be inserted before the word “movable”.

In line 2, what is the word “its” referring to?

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 17, line 2, the phrase "the acceleration sensor structure" lacks antecedent basis. In lines 2-3, the phrase "a second stationary electrode" is indefinite since it is unclear how can there be a second stationary electrode when there is no first stationary electrode previously claimed. Please clarify. In lines 3-4, the phrase "each movable electrode" is indefinite since there is only claimed a movable electrode. How can there be an "each"? Please clarify.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5,9,31 of copending Application No. 10/774,691 (Lehtonen). Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the elements presently claimed in the instant Application are claimed in the copending Application 10/77,691. Even though some of the characteristics of the elements (i.e. a capacitance change between a movable electrode, which is free to rotate about an axis of rotation, and a stationary plate portion) claimed in the instant Application is not claimed in the copending Application, it would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of fabricating the pair of electrodes in different shapes and dimensions (i.e. a triangle, a drop, a hammer - NOTE: In re Dailey, 149, USPQ 47 (CCPA 1976)). and having torsion spring supporting the movable electrode without departing from the scope of the invention, namely to measure angular acceleration.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 6-7, 10, 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by either U.S. Patent 4,483,194 (Rudolf) or U.S. Patent 5,349,858 (Yagi et al.) or U.S. Patent 5,831,164 (Reddi et al.) or U.S. Patent 5,905,203 (Flach et al.) or JP 5-142251 (Umeda).

The references, Rudolf, Yagi et al., Reddi et al., Flach et al., Umeda, disclose an accelerometer comprising at least one pair of electrodes comprises a movable electrode and at least one stationary plate portion wherein the movable electrode is free to rotate in a rotational motion along an axis of rotation such that a capacitance change between the movable electrode and the plate portion is enhanced by the shape of the electrodes or the gap between the electrodes. Furthermore, the movable electrode is supported at two support points by torsion springs for bending and rotating; a second stationary electrode. (See, Figures 1,3-5, column 2, line 19 to column 3, line 55 of Rudolf; Figures 2-3, column 2, line 32 to column 3, line 8 of Yagi et al.; Figures 1A-2A, column 3, line 25 to column 6, line 31 of Reddi et al.; Figure 2, column 2, lines 10-31 of Flach et al.; Figures 1-3, Abstract of Umeda).

10. Claims 1-11 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,000,287 (Menzel).

Menzel discloses an angular motion accelerometer comprising, as illustrated in Figures 1-7, at least one pair of electrodes comprises a movable electrode 24 and at least one stationary plate portion 34 wherein the movable electrode is free to rotate in a rotational motion along an axis of rotation such that a capacitance change between the movable electrode and the plate portion is enhanced by the shape of the electrodes or the gap between the electrodes. Furthermore, the pair of electrodes are shaped by a significant portion of the area of either the movable electrode or the stationary plate portion or both electrodes; the movable electrode is supported at two support points by torsion springs 30 for bending and rotating; a second stationary electrode 40. (See, column 3, line 14 to column 5, line 53).

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,000,287 (Menzel) in view of U.S. Patent 5,831,164 (Reddi et al.).



With regards to claims 12-14, Menzel does not disclose the pair of electrodes is shaped in a triangle or a drop or a hammer; but does teach the pair of electrodes are shaped in a trident and rectangular shape. (See, column 1, line 66 to column 2, line 4). Reddi et al. suggests the pair of electrodes maybe of any shape. (See, column 6, lines 30-31). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of constructing the pair of electrodes to be any shape as suggested by Reddi et al. to the apparatus of Menzel to provide a plurality of accelerometers with different dimensions for the electrodes such that each accelerometer has a different sensitivity to acceleration without significant changes in the basic construction of the accelerometers, namely having a moving electrode and a stationary electrode. Furthermore, it is well known one can design an element to a different form or shape without departing from the scope of the invention. (NOTE: In re Dailey, 149, USPQ 47 (CCPA 1976)).

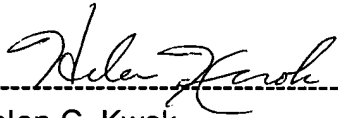
### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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Helen C. Kwok  
Art Unit 2856

hck  
January 6, 2005